



## Respiratory Protection Policy

### SCOPE

This program applies to all employees who are required to wear respirators during normal work operations and during some non-routine or emergency operations such as a spill of a hazardous substance. This includes employees in General Repair, Grounds, Garage, Art, Occupational Therapy, Sciences, and possibly other departments working with materials that may require respiratory protection. All employees working in these areas and engaged in certain processes or tasks (as outlined in the table below) must be trained in the company's respiratory protection program.

In addition, any employee who voluntarily wears a dust mask will be provided with pertinent information relating to voluntary use of respirators by employees (Appendix D of the Respiratory Protection standard). Employees who voluntarily wear any other respirator, even where respiratory protection is not specifically required, are subject to the **medical evaluation, cleaning, maintenance, and storage elements** of this program and must also be provided with a copy of Appendix D of the Respiratory Protection Standard.

Employees participating in the respiratory protection program do so at no cost to them. The expense associated with training, medical evaluations, and respiratory protection equipment will be borne by the College.

TABLE 1: VOLUNTARY AND REQUIRED RESPIRATOR USE AT ELIZABETHTOWN COLLEGE	
Respirator	Department/Process
Filtering facepiece (dust mask)	Furniture making in the shop Voluntary use in a variety of jobs in General Repair Voluntary use in a variety of jobs in the Garage Voluntary use in Grounds Voluntary use in Environmental Services Voluntary use in Physics-woodworking & finishing
Half-facepiece Air Purifying Respirator (APR) (P-100) Half-facepiece APR (P-100/OV) Half-facepiece APR (P-100) Half-facepiece APR (P-100/OV) Half-facepiece APR OV	Furniture making in the shop Furniture finishing in the Brown Building Art Department – burning & welding/sand blasting Emergency Response Voluntary use in Physics & OT-organic solvents
Powered Air Purifying Respirator (PAPR) (P-100/OV)	Furniture Making – Finishing Burning and welding in Garage

### PURPOSE

Elizabethtown College has determined that employees in General Repair, Grounds, Garage, Art, Occupational Therapy, Physics, and possibly other departments may be exposed to respiratory hazards during routine operations. These hazards include wood dust, particulates, fumes, and vapors. The purpose of this program is to ensure that all Elizabethtown College employees are protected from exposure to these respiratory hazards

Engineering controls, such as ventilation and substitution of less toxic materials, are the first line of defense at Elizabethtown College; however, engineering controls have not always been feasible for some of our operations or have not always completely controlled the identified hazards. In these situations, respirators and other protective equipment must be used. Respirators are also needed to protect employees' health during emergencies. The work processes requiring respirator use at Elizabethtown College are outlined in Table 1 in the Scope section of this program.

In addition, some employees have expressed a desire to wear respirators during certain operations that do not require respiratory protection. As a general policy, Elizabethtown College will review each of these requests on a case-by-case basis. If the use of respiratory protection in a specific case will not jeopardize the health or safety of the worker(s), Elizabethtown College will provide respirators for voluntary use. As outlined in the Scope section of this program, voluntary respirator use is subject to certain requirements of this program.



## PROCESS

### Selection Procedures

The Safety Manager will select respirators to be used on site, based on the hazards to which workers are exposed and in accordance with all OSHA standards. The Safety Manager will conduct a hazard evaluation for each operation, process, or work area where airborne contaminants may be present in routine operations or during an emergency. The hazard evaluation will include:

- Identification and development of a list of hazardous substances used in the workplace, by department, or work process.
- Review of work processes to determine where potential exposures to these hazardous substances may occur. This review shall be conducted by surveying the workplace, reviewing process records, and talking with employees and supervisors.
- Exposure monitoring to quantify potential hazardous exposures. Monitoring will be contracted out. Elizabethtown College currently has a contract with Cumberland Analytical Services to provide monitoring when needed.

The hazard evaluation reports can be found in the Safety Manager's office.

Employees may voluntarily wear half-facepiece APRs with P100 cartridges and or organic vapor cartridges when they are exposed to respiratory hazards. Although exposure monitoring has shown that exposures are kept within PELs during these procedures, Elizabethtown College will provide respirators to workers who are concerned about potential exposures.

### *Updating the Hazard Assessment*

The Safety Manager must revise and update the hazard assessment as needed (i.e., any time work process changes may potentially affect exposure). If an employee feels that respiratory protection is needed during a particular activity, he/she is to contact his or her supervisor or the Safety Manager. The Safety Manager will evaluate the potential hazard, arranging for outside assistance as necessary. The Safety Manager will then communicate the results of that assessment back to the employees. If it is determined that respiratory protection is necessary, all other elements of this program will be in effect for those tasks and this program will be updated accordingly.

### *NIOSH Certification*

All respirators must be certified by the National Institute for Occupational Safety and Health (NIOSH) and shall be used in accordance with the terms of that certification. Also, all filters, cartridges, and canisters must be labeled with the appropriate NIOSH approval label. The label must not be removed or defaced while it is in use.

### *Voluntary Respirator Use*

Elizabethtown College will provide respirators at no charge to employees for voluntary use for the following work processes:

- Employees may wear half-facepiece APRs with organic vapor cartridges while working in operations involving organic solvents.
- General Repair workers may wear filtering facepieces while working in dusty environments or when working with organic solvents.
- Spray Booth Operators may wear half-facepiece APRs with organic vapor cartridges while cleaning spray guns.
- Maintenance personnel may wear half-facepiece APRs with P100 cartridges while cleaning spray booth walls, and organic vapor cartridges while loading spray guns.

The Safety Manager will provide all employees who voluntarily choose to wear respirators (including dust masks) with a copy of Appendix D of the Respiratory Protection Standard (1910.134). (Appendix D details the requirements for voluntary use of respirators by employees.) Employees choosing to wear a half facepiece APR must comply with the procedures for Medical Evaluation, Respirator Use, and Cleaning, Maintenance and Storage.



The Safety Manager shall authorize voluntary use of respiratory protective equipment as requested by all other workers on a case-by-case basis, depending on specific workplace conditions and the results of the medical evaluations.

## **Medical Evaluation**

Employees who are either required to wear respirators, or who choose to wear an APR voluntarily, must pass a medical exam before being permitted to wear a respirator on the job. Employees are not permitted to wear respirators until a physician has determined that they are medically able to do so. Any employee refusing the medical evaluation will not be allowed to work in an area requiring respirator use. Employees will work within the reviewing physician's instructions.

A licensed physician at Lancaster General Hospital's Occupational Medicine group will provide the medical evaluations. Medical evaluation procedures are as follows:

- The medical evaluation will be conducted using the questionnaire provided in Appendix C of the Respiratory Protection Standard (1910.134). The Safety Manager will provide a copy of this questionnaire to all employees requiring medical evaluations.
- To the extent feasible, the College will assist employees in completing the questionnaire. When this is not possible, the employee will be sent directly to the physician for medical evaluation.
- All affected employees will be given a copy of the medical questionnaire to fill out, along with a stamped and addressed envelope for mailing the questionnaire to the College physician. Employees will be permitted to fill out the questionnaire on College time.
- Follow-up medical exams will be granted to employees as required by the standard, and/or as deemed necessary by the Campus physician.
- All employees will be granted the opportunity to speak with the physician about their medical evaluation, if they so request.
- The Safety Manager has provided Lancaster General Hospital's Occupational Medicine group with a copy of this program, a copy of the Respiratory Protection standard, the list of hazardous substances by work area, and for each employee requiring evaluation: his or her work area or job title, proposed respirator type and weight, length of time required to wear respirator, expected physical work load (light, moderate, or heavy), potential temperature and humidity extremes, and any additional protective clothing required.
- Any employee required for medical reasons to wear a positive pressure air purifying respirator will be provided with a powered air purifying respirator.
- After an employee has received clearance and begun to wear his or her respirator, additional medical evaluations will be provided under the following circumstances:
  - Employee reports signs and/or symptoms related to their ability to use a respirator, such as shortness of breath, dizziness, chest pains, or wheezing.
  - Lancaster General Hospital's Occupational Medicine group or supervisor informs the Safety Manager that the employee needs to be reevaluated;
  - Information from this program, including observations made during fit testing and program evaluation, indicates a need for reevaluation;
  - A change occurs in workplace conditions that may result in an increased physiological burden on the employee.

All examinations and questionnaires are to remain confidential between the employee and the physician.

Supervisors will be informed of employees who cannot wear respirators based on the results of medical evaluation.



## Fit Testing

Fit testing is required for employees wearing tight-fitting half-facepieces.

Employees who are required to wear half-facepiece APRs will be fit tested:

- Prior to being allowed to wear any respirator with a tight fitting facepiece.
- Annually.
- When there are changes in the employee's physical condition that could affect respiratory fit (e.g., obvious change in body weight, facial scarring, etc.).

Employees will be fit tested with the make, model, and size of respirator that they will actually wear. Employees will be provided with several models and sizes of respirators so that they may find an optimal fit.

The Safety Manager or supervisor will arrange for or conduct fit tests following OSHA approved methods.

## Respirator Use

Respiratory protection is required/voluntary for the following personnel:

<b>TABLE 2: COLLEGE PERSONNEL IN RESPIRATORY PROTECTION</b>			
<b>Title</b>	<b>Department</b>	<b>Job Description/Work Procedure</b>	<b>Respirator</b>
Carpenter	Facilities Management	Furniture making	Half face APR - 100/OV Facepiece (dustmask) PAPR - P100/OV APR - P100
Carpenter/General Repairs	Facilities Management	Assorted Tasks	APR - P100 facepiece (dust mask)
Trades Helper	Facilities Management	Assorted Tasks	APR - P100 facepiece (dust mask)
Grounds Technicians	Facilities Management	Fertilizer and pesticides	Half face APR (P100/OV) Facepiece (dustmask)
Mechanic	Facilities Management	Burning and welding Painting	PAPR – P100/OV
Mechanical Technicians	Facilities Management	Assorted Tasks	APR - P100 facepiece (dust mask)
Professors	Occupational Therapy	Assorted Tasks	APR-OV
Professors	Art	Burning and welding Sand blasting	APR fume APR P-100
Professors	Physics	Assorted Tasks	APR-OV

### General Use Procedures:

- Employees will use their respirators under conditions specified by this program, and in accordance with the training they receive on the use of each particular model. In addition, the respirator shall not be used in a manner for which it is not certified by NIOSH or by its manufacturer.
- All employees shall conduct user seal checks each time that they wear their respirator. Employees shall use either the positive or negative pressure check (depending on which test works best for them) specified in Appendix B-1 of the Respiratory Protection Standard (1910.134).
- All employees shall leave the work area to maintain their respirator for the following reasons: to clean their respirator if the respirator is impeding their ability to work, change filters or cartridges, replace parts, or to inspect respirator if it stops functioning as intended. Employees should notify their supervisor before leaving the job.



- Employees may not wear tight-fitting respirators if they have any condition, such as facial scars, facial hair, or missing dentures, that prevents them from achieving a good seal. Employees may not wear headphones, jewelry, or other articles that may interfere with the facepiece-to-face seal.

#### *Emergency Procedures:*

The following work areas have been identified as having foreseeable emergencies:

- CO<sub>2</sub> storage area – Baugher Student Center (BSC) Basement (Pool)
- Sodium Hypochlorite – BSC Basement (Pool)
- Laboratories

When there is an emergency, employees trained in HAZWOPER (Emergency Response) will respond. They will respond and control and/or mitigate the situation to the point that a full face respirator will allow. If the emergency requires a higher level of respiratory protection, the local hazmat unit will be called in to control the emergency.

All other people will leave the area immediately.

#### *Respirator Malfunction*

For any malfunction of an APR (e.g., such as breakthrough, facepiece leakage, or improperly working valve), the respirator wearer should inform his or her supervisor that the respirator no longer functions as intended, and go to the designated safe area to maintain the respirator. The supervisor must ensure that the employee receives the needed parts to repair the respirator, or is provided with a new respirator.

#### *IDLH Procedures*

The following areas have been identified as presenting the potential for IDLH (immediately dangerous to life or health concentrations) conditions:

- CO<sub>2</sub> storage area – BSC basement
- Sodium Hypochlorite storage room – BSC Basement

In the event that there is a leak in either location employees should leave immediately and call Campus Security (x1111).

### **Cleaning, Maintenance, Change Schedules, and Storage**

#### *Cleaning*

Respirators are to be regularly cleaned and disinfected. Employees should use alcohol towelettes to disinfect their respirator.

Respirators issued for the exclusive use of an employee shall be cleaned as often as necessary, but at least once a day.

The following procedure is to be used when cleaning and disinfecting respirators:

- Disassemble respirator, removing any filters, canisters, or cartridges.
- Wipe the respirator with disinfectant wipes (70% Isopropyl Alcohol) to kill germs.
- Air dry in a clean area.
- Reassemble the respirator and replace any defective parts.
- Place in a clean, dry plastic bag or other air tight container.

Note: The supervisor will ensure an adequate supply of appropriate cleaning and disinfection materials. If supplies are low, employees should contact their supervisor.

#### *Maintenance*

Respirators are to be properly maintained at all times in order to ensure that they function properly and adequately protect the employee. Maintenance involves a thorough visual inspection for cleanliness and defects. Worn or deteriorated parts



will be replaced prior to use. No components will be replaced or repairs made beyond those recommended by the manufacturer. Repairs to regulators or alarms of atmosphere-supplying respirators will be conducted by the manufacturer.

The following checklist will be used when inspecting respirators:

- Facepiece:
  - cracks, tears, or holes
  - facemask distortion
  - cracked or loose lenses/faceshield
  
- Headstraps:
  - breaks or tears
  - broken buckles
  
- Valves:
  - residue or dirt
  - cracks or tears in valve material
  
- Filters/Cartridges:
  - approval designation
  - gaskets
  - cracks or dents in housing
  - proper cartridge for hazard

Employees are permitted to leave their work area to perform limited maintenance on their respirator in a designated area that is free of respiratory hazards. Situations when this is permitted include to wash their face and respirator facepiece to prevent any eye or skin irritation; to replace the filter, cartridge, or canister; if they detect vapor or gas breakthrough or leakage in the facepiece; or if they detect any other damage to the respirator or its components.

#### *Change Schedules*

Employees wearing APRs or PAPRs with P100 filters for protection against wood dust and other particulates shall change the cartridges on their respirators when they first begin to experience difficulty breathing (i.e., resistance) while wearing their masks.

Based on discussions with our respirator distributor about Elizabethtown College's workplace exposure conditions, employees voluntarily wearing APRs with organic vapor cartridges shall change the cartridges on their respirators when bleed-through begins to ensure the continued effectiveness of the respirators. Employees voluntarily wearing APRs with dust cartridges shall change the cartridges when breathing becomes difficult.

#### *Storage*

Respirators must be stored in a clean, dry area, and in accordance with the manufacturer's recommendations. Each employee will clean and inspect their own APR in accordance with the provisions of this program and will store their respirator in a plastic bag in their own locker. Each employee will have his/her name on the bag and that bag will only be used to store that employee's respirator.

Each department will store Elizabethtown College's supply of respirators and respirator components in their original manufacturer's packaging in the department.

#### *Defective Respirators*

Respirators that are defective or have defective parts shall be taken out of service immediately. If, during an inspection, an employee discovers a defect in a respirator, he/she is to bring the defect to the attention of his or her supervisor. Supervisors will give all defective respirators to the Safety Manager. The Safety Manager will decide whether to:

- Temporarily take the respirator out of service until it can be repaired.



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- Perform a simple fix on the spot such as replacing a headstrap.
- Dispose of the respirator due to an irreparable problem or defect.

When a respirator is taken out of service for an extended period of time, the respirator will be tagged out of service, and the employee will be given a replacement of similar make, model, and size. All tagged out respirators must be given to the Safety Manager's for proper disposal.

### **Training**

The Safety Manager or designee will provide training to respirator users and their supervisors on the contents of the Elizabethtown College Respiratory Protection Program and their responsibilities under it, and on the OSHA Respiratory Protection standard. Workers will be trained prior to using a respirator in the workplace. Supervisors will also be trained prior to using a respirator in the workplace or prior to supervising employees that must wear respirators.

The training course will cover the following topics:

- the Elizabethtown College Respiratory Protection Program
- the OSHA Respiratory Protection standard
- respiratory hazards encountered at Elizabethtown College and their health effects
- proper selection and use of respirators
- limitations of respirators
- respirator donning and user seal (fit) checks
- fit testing
- emergency use procedures
- maintenance and storage
- medical evaluations, signs, and symptoms limiting the effective use of respirators

Employees will be retrained annually or as needed (e.g., if they change departments and need to use a different respirator). Employees must demonstrate their understanding of the topics covered in the training through hands-on exercises and a written test. Respirator training will be documented by the Safety Manager and the documentation will include the type, model, and size of respirator for which each employee has been trained and fit tested.

### **Program Evaluation**

The Safety Manager will conduct periodic evaluations of the workplace to ensure that the provisions of this program are being implemented. The evaluations will include periodic consultations with employees who use respirators and their supervisors, site inspections, air monitoring, and a review of records.

Problems identified will be noted in an inspection log and will be reported to Elizabethtown College management; the report will list plans to correct deficiencies in the respirator program and target dates for the implementation of those corrections.

### **Documentation and Recordkeeping**

A written copy of this program and the OSHA standard is kept in the Safety Manager's office and on the safety website ([www.etown.edu/safety](http://www.etown.edu/safety)) and is available to all employees who wish to review it.

Also maintained in the Safety Manager's office are copies of training and fit test records. These records will be updated as new employees are trained, as existing employees receive refresher training, and as new fit tests are conducted.

Human Resources will also maintain copies of the medical records for all employees covered under the respirator program. The completed medical questionnaire and the physician's documented findings are confidential and will remain at Lancaster General Hospital's Occupational Medicine group office. The College will only retain the physician's written recommendation regarding each employee's ability to wear a respirator.

### **RESPONSIBILITIES**



## 1. Safety Manager

- a. Administer the respiratory protection program
- b. Identify work areas, processes, or tasks that require workers to wear respirators and evaluate hazards
- c. Select respiratory protection options
- d. Monitor respirator use to ensure that respirators are used in accordance with their certifications
- e. Arrange for and/or conduct training, including fit testing
- f. Administer the medical surveillance program
- g. Maintain records required by the program

## 2. Supervisors

- a. Ensure that the respiratory protection program is implemented in their areas
- b. Ensure that the program is understood and followed by their employees
- c. Ensure that employees under their supervision (including new hires) have received appropriate training, fit testing, and annual medical evaluation
- d. Purchase and ensure the availability of appropriate respirators and accessories
- e. Be aware of tasks requiring the use of respiratory protection
- f. Enforce the proper use of respiratory protection when necessary
- g. Ensure that respirators are properly cleaned, maintained, and stored according to the respiratory protection plan
- h. Ensure proper storage and maintenance of respiratory protection equipment
- i. Ensure that respirators fit well and do not cause discomfort
- j. Monitor work areas and operations to identify respiratory hazards
- k. Coordinate with the Safety Manager on how to address respiratory hazards or other concerns regarding the program

## 3. Employees

- a. Each employee has the responsibility to wear his or her respirator when and where required and in the manner in which they were trained.
- b. Care for and maintain respirators as instructed, and store them in a clean sanitary location
- c. Inform supervisor if the respirator no longer fits well, and request a new one that fits properly
- d. Inform supervisor or the Safety Manager of any respiratory hazards that they feel are not adequately addressed in the workplace and of any other concerns that they have regarding the program.

## 4. Lancaster General Hospital's Occupational Medicine group

- a. Coordinate/conduct medical evaluations
- b. Maintain the confidential medical questionnaires from employees
- c. Provide written recommendation regarding each employee's ability to wear a respirator

## **EVALUATION**

The Safety Committee shall be responsible for evaluating this policy annually.

## **DOCUMENT HISTORY**

Created: 8/2006; Audited: 8/2007; Revised: 3/2008; Audited 9/2008

Revised: 9/2009, 12/2010